

CLAIMS

1. A remote control apparatus that wirelessly communicates
5 with a program selecting apparatus which stores therein pieces
of reception information each of which is required for reception
of a corresponding one of a plurality of programs, displays
a program table, and in response to a signal transmitted from
the remote control apparatus, either selects one of the plurality
10 of programs or transmits one of the pieces of reception
information that corresponds to a selected one of the programs,
the remote control apparatus comprising:
- a recording medium;
 - an operation receiving unit operable to receive a user
15 operation from a user;
 - a selecting unit operable to transmit a selective signal
for selecting one of the programs according to the user operation
to the program selecting apparatus;
 - a requesting unit operable to, when a first user operation
20 has been received, transmit, to the program selecting apparatus,
a signal for requesting a piece of reception information that
corresponds to the selected program;
 - a reception information receiving unit operable to
receive and record, onto the recording medium, the piece of
25 reception information transmitted from the program selecting

apparatus; and

a forwarding unit operable to transmit, after a second user operation has been received, the piece of reception information recorded on the recording medium.

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2. The remote control apparatus of Claim 1, comprising a transmitting unit operable to perform a transmission with directivity, wherein

each of the transmissions performed by the selecting unit, the requesting unit, and the forwarding unit is performed via the transmitting unit.

3. The remote control apparatus of Claim 2, wherein the transmitting unit performs each of the transmissions by transmitting an infrared ray.

4. The remote control apparatus of Claim 2, wherein the forwarding unit transmits the piece of reception information recorded on the recording medium to a program recording apparatus that is operable to, when having received a piece of reception information, receive and record a program that corresponds to the piece of reception information,

the remote control apparatus further comprises a signal format storing unit that pre-stores therein signal format information which indicates, in

correspondence with pieces of identification information for identifying a plurality of types of program recording apparatuses, a plurality of remote control signal formats which are to be used for a purpose of presetting recording of each
5 program and which the plurality of types of program recording apparatuses are capable of receiving respectively, and

the forwarding unit includes:

an identification information obtaining unit operable to, when the second user operation has been received,
10 transmit, via the transmitting unit, to the program recording apparatus to which the piece of reception information is to be transmitted, a signal for requesting a piece of identification information that identifies a type of the program recording apparatus, and to subsequently receive the piece of
15 identification information from the program recording apparatus;

a signal format specifying unit operable to specify a remote control signal format that corresponds to the type of program recording apparatus identified with the received
20 piece of identification information, based on the signal format information; and

an organizing unit operable to organize the piece of reception information so as to be in the specified remote control signal format and transmit the organized piece of
25 reception information to the program recording apparatus.

5. The remote control apparatus of Claim 4, wherein
the program selecting apparatus receives and stores
therein, for each of programs scheduled to be broadcasted, a
5 piece of reception information broadcasted and a piece of program
related information broadcasted and made up of items related
to the program, and transmits a piece of program related
information that corresponds to the selected program in addition
to the piece of reception information,

10 the remote control apparatus further includes a utilized
item information storing unit that stores therein
utilized item information which indicates, in correspondence
with the pieces of identification information, one or more of
the items which are within the pieces of program related
15 information and can be utilized by each of the types of program
recording apparatuses,

the forwarding unit includes a utilized item specifying
unit operable to specify one or more of the items within the
pieces of program related information which can be utilized
20 by the type of program recording apparatus identified with the
received piece of identification information, based on the
utilized item information, and

the organizing unit extracts the one or more specified
items out of pieces program related information recorded on
25 the recording medium, organizes the extracted items and the

piece of reception information so as to be in the specified remote control signal format, and transmits the organized items and piece of reception information to the program recording apparatus.

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6. The remote control apparatus of Claim 2, wherein the operation receiving unit has an operational button, and

the operation receiving unit regards a detection of the user pushing the operational button as that the first user operation has been received and regards a detection of the operational button becoming unpushed after the detection of a push as that the second user operation has been received.

15 7. The remote control apparatus of Claim 6, wherein the remote control apparatus further includes

an informing unit operable to, when the piece of reception information is recorded onto the recording medium by the reception information receiving unit, inform the user that the piece of reception information has been recorded.

8. The remote control apparatus of Claim 2, wherein every time the first user operation has been received, the requesting unit transmits, to the program selecting apparatus, the signal for requesting a piece of reception

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information that corresponds to a selected program,

the reception information receiving unit receives and records, onto the recording medium, pieces of reception information that correspond to selected programs respectively
5 and have been transmitted from the program selecting apparatus, and

every time the second user operation has been received, the forwarding unit transmits one of the pieces of reception information recorded on the recording medium.

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9. The remote control apparatus of Claim 8, wherein

the remote control apparatus further includes a recorded information displaying unit operable to display part or all of each of the pieces of reception information recorded on the
15 recording medium in such a manner to be grouped in units of programs and arranged in a predetermined order, and

every time the second user operation has been received, the forwarding unit selects and transmits one of the pieces of reception information, according to the predetermined order.

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10. The remote control apparatus of Claim 8, wherein

the remote control apparatus further includes:

an option displaying unit operable to display part or all of each of the pieces of reception information recorded
25 on the recording medium as options for selecting one or more

of the programs; and

a selection receiving unit operable to receive
a selection of one of the options by the user, and

the forwarding unit transmits one of the pieces of
5 reception information that corresponds to the selection that
has been received by the selection receiving unit most recently
when the second user operation has been received.

11. A program receiving system that includes a program
10 selecting apparatus, a remote control apparatus, and a plurality
of receiving apparatuses, wherein

the program selecting apparatus includes:

a reception storing unit operable to receive and
store therein pieces of reception information each of which
15 is broadcasted and is required for reception of a corresponding
one of a plurality of programs;

a program table displaying unit operable to
display a program table based on the received pieces of reception
information;

20 a program selecting unit operable to, when having
received from the remote control apparatus, a selective signal
for selecting one of the programs, select the one of the programs
from the program table according to the selective signal; and

a reception information transmitting unit
25 operable to, when having received a request signal for requesting

a piece of reception information from the remote control apparatus, transmit a piece of reception information that corresponds to the selected program to the remote control apparatus,

5 the remote control apparatus includes:

 a recoding medium;

 an operation receiving unit operable to receive a user operation from a user;

 a selecting unit operable to wirelessly transmit,
10 to the program selecting apparatus, the selective signal for selecting the program according to the user operation;

 a requesting unit operable to, when a first user operation has been received, wirelessly transmit, to the program selecting apparatus, the request signal for requesting the piece
15 of reception information that corresponds to the selected program;

 a reception information receiving unit operable to receive and record, onto the recording medium, the piece of reception information transmitted from the program selecting
20 apparatus; and

 a forwarding unit operable to, after a second user operation has been received, wirelessly transmit to one of the receiving apparatuses, the piece of reception information recorded on the recording medium, and

25 each of the receiving apparatuses includes a program

receiving unit operable to, when having received the piece of reception information from the remote control apparatus, receive a program that based on the piece of reception information.

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12. The program receiving system of Claim 11, wherein the remote control apparatus includes a transmitting unit operable to perform a transmission with directivity by transmitting an infrared ray, and

10 each of the transmissions performed by the selecting unit, the requesting unit, and the forwarding unit is performed via the transmitting unit.

13. The program receiving system of Claim 12, wherein

15 the reception storing unit receives and stores therein, for each of programs scheduled to be broadcasted, a piece of reception information and a piece of program related information being made up of items related to the program, and

the reception information transmitting unit transmits
20 a piece of program related information that corresponds to the selected program in addition to the piece of reception information,

each of the receiving apparatuses further includes:

a program recording unit operable to record the
25 program received by the program receiving unit;

an identification information storing unit that pre-stores therein a piece of identification information that shows a type of the receiving apparatus; and

an identification information transmitting unit operable to, when having received from the remote control apparatus a signal for requesting a piece of identification information, transmit the piece of identification information pre-stored in the identification information storing unit to the remote control apparatus,

the remote control apparatus further includes

a type information storing unit that stores therein, (i) signal format information which indicates, in correspondence with pieces of identification information for identifying a plurality of types of receiving apparatuses, a plurality of remote control signal formats which are to be used for a purpose of presetting recording of each program and which the plurality of types of receiving apparatuses are capable of receiving respectively and (ii) utilized item information which indicates, in correspondence with the pieces of identification information, one or more of the items which are within the pieces of program related information and can be utilized by each of the types of receiving apparatus, and

the forwarding unit includes:

an identification information obtaining unit operable to, when the second user operation has been received,

transmit, via the transmitting unit, to the receiving apparatus to which the piece of reception information is to be transmitted, a signal for requesting the piece of identification information that identifies a type of the receiving apparatus, and to
5 subsequently receive the piece of identification information from the receiving apparatus;

a signal format specifying unit operable to specify a remote control signal format that corresponds to the type of receiving apparatus identified with the received piece
10 of identification information, based on the signal format information;

a utilized item specifying unit operable to specify one or more of the items within the pieces of program related information which can be utilized by the type of
15 receiving apparatus identified with the received piece of identification information, based on the utilized item information; and

an organizing unit operable to extract the one or more specified items out of the pieces of program related
20 information recorded on the recording medium, organize the extracted items and the piece of reception information so as to be in the specified remote control signal format, and transmit the organized items and piece of reception information to the receiving apparatus.

14. An information forwarding method used by a remote control apparatus operable to wirelessly communicate with a program selecting apparatus that stores therein pieces of reception information each of which is required for reception of a corresponding one of a plurality of programs, displays a program table, and in response to a signal transmitted from the remote control apparatus, either selects one of the plurality of programs or transmits one of the pieces of reception information corresponding to a selected one of the programs, the information forwarding method comprising:

an operation receiving step of receiving a user operation from a user;

a selecting step of transmitting a selective signal for selecting one of the programs according to the user operation to the program selecting apparatus;

a requesting step of, when a first user operation has been received, transmitting, to the program selecting apparatus, a signal for requesting a piece of reception information that corresponds to the selected program;

a reception information receiving step of receiving the piece of reception information transmitted from the program selecting apparatus; and

a forwarding step of transmitting, after a second user operation has been received, the received piece of reception information.

15. A program for making a program selecting apparatus and a remote control apparatus perform an information forwarding processing, the program selecting apparatus being operable to

5 (i) store therein pieces of reception information each of which is required for reception of a corresponding one of a plurality of programs, (ii) display a program table, and (iii) in response to a signal transmitted from the remote control apparatus, either select one of the plurality of programs or transmit one of the
10 pieces of reception information corresponding to a selected one of the programs, and the remote control apparatus being operable to wirelessly communicate with the program selecting apparatus and including a recording medium and a CPU, wherein

the information forwarding processing includes:

15 an operation receiving step of receiving a user operation from a user;

a selecting step of transmitting a selective signal for selecting one of the plurality of programs according to the user operation to the program selecting apparatus;

20 a requesting step of, when a first user operation has been received, transmitting, to the program selecting apparatus, a signal for requesting a piece of reception information that corresponds to the selected program;

a reception information receiving step of
25 receiving and recording, onto the recording medium, the piece

of reception information transmitted from the program selecting apparatus; and

5 a forwarding step of transmitting, after a second user operation has been received, the piece of reception information recorded on the recording medium.